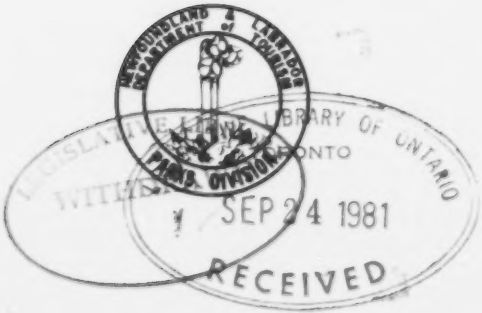
SOME NEWFOUNDLAND BUTTERFLIES

PARK INTERPRETATION

The aim of park interpretation is to assist the visifor in developing a keener awareness, appreciation, and understanding of the area he or she visits. This is accomplished by various means including interpretive signs and exhibits, amphitheatre programs, trails, naturalist programs, and publications. In the latter category Newfoundland and Labrador Provincial Parks has published a number of pamphlets and books on various topics such as birds, butterflies, flowers, shrubs, stars, archeology, history, geology and many others. These publications are designed to educate park users in the natural and cultural values of the environment of which we all are a part.

SOME
NEWFOUNDLAND
BUTTERFLIES

By A. Glen Ryan



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Cover Photographs

Front: Milbert's Tortoise Shell (photo by Glen Ryan)

Back: Arctic Fritillary (photo by George F. Draskoy)

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INTRODUCTION

Butterflies are our best known insects, being colorful and active, and sometimes very abundant. They like summer sunshine; hence, they are most active in warm sunny weather. Together with the moths, butterflies belong to the order Lepidoptera, from the Greek meaning "scaly-winged". The wings are covered with thousands of tiny scales that overlap like shingles on a roof.

Butterflies are most numerous in the tropics. About 700 species occur in North America and only 60 species have been recorded in Newfoundland and Labrador. Twenty-one of these are described and illustrated in this booklet. Most of them are those that are normally encountered. Many of them are common some years and almost absent the next. Only one, the Monarch, is not known to breed in Newfoundland.

Like other insects, the body of the adult butterflies is divided into three main parts: head, thorax, and abdomen. The head bears the main sense organs. The mouth-parts are modified into a sucking tube (proboscis) that is coiled when not in use. The eyes are large and compound, being composed of thousands of six-sided units. Vision is sharp only up to a distance of 60 to 90 cen-

timeters, but butterflies are very sensitive to sudden changes in light. The antennae, or feelers, are the most conspicuous organs of the head. They are long and slender with an enlarged knob at the end, and are used for feeling and smelling.

The thorax bears the three pairs of legs and two pairs of wings. The front legs of some butterflies are so reduced in size that they are useless for walking.

The abdomen is composed of eight or nine segments, most of them having a pair of spiracles, or breathing pores, on each side of the segments. the abdomen also bears the sex organs and anal opening.

The food of the adult butterflies is principally nectar and other liquids gathered from flowers. The food of the larvae, or caterpillars, is plant foilage. Caterpillars feed on one plant or on a few related species of plants. A few adult butterflies do not feed; they just mate and die.

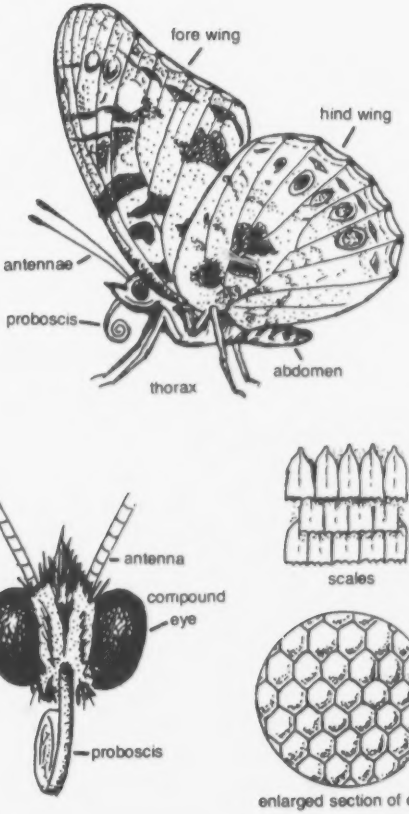
As adults, butterflies are important in the process of cross-pollination, when pollen is transferred from one flower to another. Many caterpillars, however, are considered harmful, feeding on farmers' crops and the gardener's favourite plants. Only two of our species, the Cabbage White and Short Tailed Swallowtail do sometimes cause serious damage.

Many people are interested in butterflies. Some collect, mount and identify specimens. Others gather larvae and rear them, while still others just observe, take notes and photographs. There is still much to learn about our native butterflies; hence, any observations would be of interest.

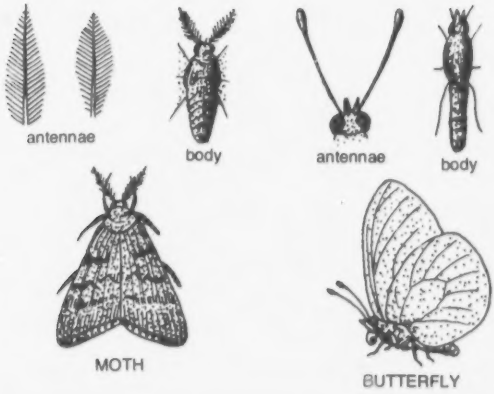
Butterflies, and other wildlife, are protected in our Provincial Parks. They are part of our natural heritage and should be left untouched for others to enjoy.

ACKNOWLEDGEMENTS

I wish to thank Mr. Bernard S. Jackson for reviewing the manuscript, and Mr. Donald W. S. Ryan for reading the manuscript and giving helpful comments. Thanks are also due to those who typed the manuscript.



PARTS OF A BUTTERFLY



HOW TO TELL A MOTH FROM A BUTTERFLY

A moth's antennae tapers to a point and is often feathery; a butterfly's are thin, ending in a knob. A moth's body is generally heavier than a butterfly's. A moth rests with its wings folded like a tent, horizontally; a butterfly presses them together overhead, vertically. A moth generally spins a silken cocoon; a butterfly doesn't. Moths typically fly at night; butterflies fly by day.

SKIPPERS are usually classified with the butterflies. The body is stout and massive and the wings are small in proportion. The antennae are "clubbed" but the end is usually bent backwards into a hook.

LIFE CYCLE OF A BUTTERFLY

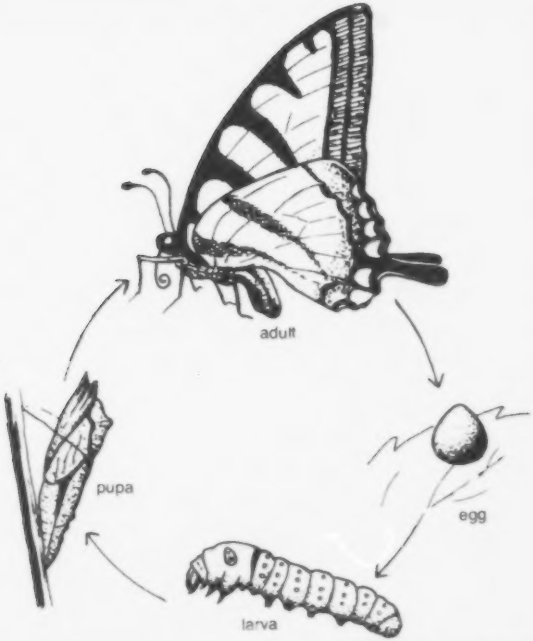
All butterflies develop by a series of changes known as complete metamorphosis, characterized by four distinct stages: egg, larva, pupa, and adult.

EGGS of butterflies vary greatly in size, shape, and design, and are often beautifully sculptured. The female usually lays her eggs on a specific food plant — one on which the larva can feed. Most eggs hatch in a few days but those laid in the fall often hatch in the Spring.

LARVAE of butterflies are usually called caterpillars. They grow quickly, shedding their skin about four times before becoming full grown. They are sometimes grotesque in appearance, thus protecting themselves against predators. Sometimes butterflies remain in the larval stage over the winter.

PUPAE of most butterflies are called chrysalises. This is the resting stage, when the larva changes to an adult. Pupae are inactive and mummy-like and varied in shape and color. Many species overwinter in this stage.

An ADULT butterfly emerges from the pupa. It is soft and damp and must cling to the empty pupal case until its wings expand and harden. It is then ready to lead an adult life. Many adult butterflies just live long enough to lay eggs.



LIFE CYCLE OF THE TIGER SWALLOWTAIL

Adult Swallowtails emerge from overwintering pupae in June. Female lays her spherical eggs singly on the leaves of the food plant. The green caterpillar sheds its skin several times before it is full grown. It lives in a hideaway nest, made by rolling the edge of the leaf about itself. When a place has been selected for pupation, the caterpillar fastens itself in a vertical position, secures the hindmost feet with silk and loops a silk girdle around its middle. It overwinters in this manner and an adult butterfly emerges in the spring, completing the cycle.

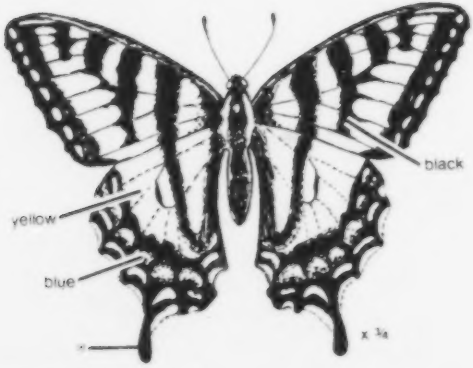
SHORT TAILED SWALLOWTAIL,
Papilio brevicauda Saunders

Wingspan: 7.0 - 8.0 cm (2.75 - 3.0 in). Upperside is black, marked with bands of orange-yellow spots. Hind wing has a band of blue spots. Tails are short.

Larva, when young, is brownish black, with a white saddle. Older larva is green with bands of black that are marked with round yellow spots. Feeds on parsnips, angelica and scotch lovage. Overwinters as a pupa. Adults appear in late June. Found mainly around the coast, but may occur inland as well.

Swallowtail caterpillars have a fleshly horn-like projection of yellow or orange which they protrude from behind the head when disturbed.

*Asterisk indicates a distinctive 'field mark'



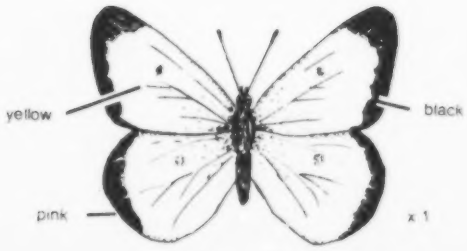
TIGER SWALLOWTAIL,

Papilio glaucus canadensis Rothschild & Jordan

Wingspan: 9.0 - 11.0 cm (3.75 - 5.0 in). One of our most familiar butterflies. Upperside is largely yellow and black. Hind wing has a band of blue spots. Very noticeable tail and hind wing.

Larva is smooth and green with a pair of large, orange 'eyespots' on the front of its body. Feeds on a variety of plants - wild cherry, birch, poplar and apple. Overwinters as a pupa. Adults appear in early June.

Mud puddles, and other damp places, sometimes attract large numbers of Tiger Swallowtails. These gatherings are called Mud Puddle Clubs.

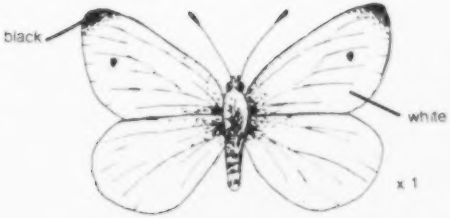


COMMON SULPHUR,
Colias philodice Godart

Wingspan: 4.0 - 5.0 cm (1.5 - 2.0 in). Upperside is yellow bordered with black. Small black spot on the fore wing. Hind wing beneath has two spots - one large and one small. Wings are often edged with a pink flush.

Larva is green with short hairs and a dark stripe down the back. Feeds on members of the pea family - vetch, clover, lupin. Overwinters as a larva. Adults are on the wing in July and August.

Pink-edged Sulphur, *C. interior* Scudder is similar but has a single spot on the hind wing beneath and more diffuse pink along the wing edges. Larva is dark yellowish green. Feeds on Blueberry.

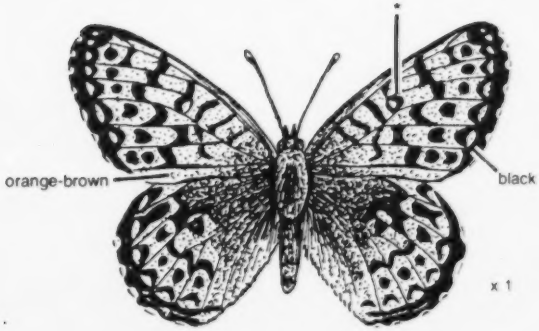


CABBAGE BUTTERFLY,
Pieris rapae (L)

Wingspan: 4.5 - 6.0 cm (1.75 - 2.5 in). White with black tip to fore wing. Female has two dark marks on fore wing; male has one. Dark markings are reduced in spring broods.

Larva is green with three yellow lines, and covered with tiny, hairy wartlets. Feeds on cabbage and related plants; also, nasturtiums. Overwinters as a pupa.

Common in cultivated areas. Accidentally introduced from Europe to North America at Quebec around 1860 and has since spread across the continent. Such introductions often fail but if successful, as in this case, can be most unfortunate, causing native species using the same habitat to be reduced in numbers, or even disappear. It is a very destructive agricultural and horticultural pest.

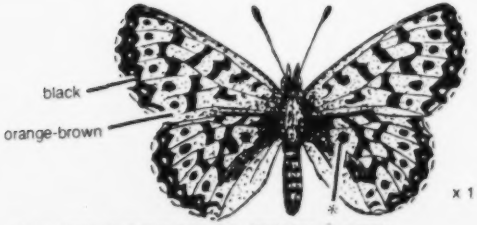


ATLANTIS FRITILLARY,
Speyeria atlantis (Edwards)

Wingspan: 6.0 - 7.5 cm (2.7 - 3.0 in). Upperside is orange-brown, marked with blackish lines and spots. Dark margin on fore wing. Underside has metallic silver spots.

Larva is velvety, dark brown or black, and spiny. Hides in day and feeds at night on violets. Overwinters as a larva. Another name for this species is "Silverspots". Found in open meadows.

The Fritillaries, Pearl Crescent, Green Comma, Painted Lady, Red Admiral, Mourning Cloak, Tortoise Shell and White Admiral are classified as 'brush-footed butterflies'. The front legs are tiny, hairy and useless for walking.



SILVER BORDERED FRITILLARY,
Boloria Selene terraenovae (Holland)

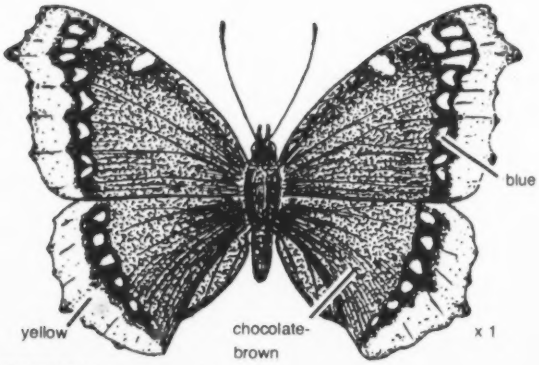
Wingspan: 3.8 cm (1.5 in). Upperside is orange-brown with black markings. Hind wing beneath is bright mahogany brown.

Larva is greenish-brown with spines and hairs. Feeds at night on violets. Overwinters as a larva. Found in wet areas and dry meadows, as well as along roadsides.

PEARL CRESCENT,
Phyciodes tharos arctica dos Passos

Wingspan: 3.0 - 3.8 cm (1.3 - 1.5 in). Orange-yellow with dark-brown or blackish markings.

Larva is black with yellow dots and a yellow band along each side; spiny. Feeds in little groups on the leaves of asters. Hibernates as a larva. Found in open areas and along roadsides.



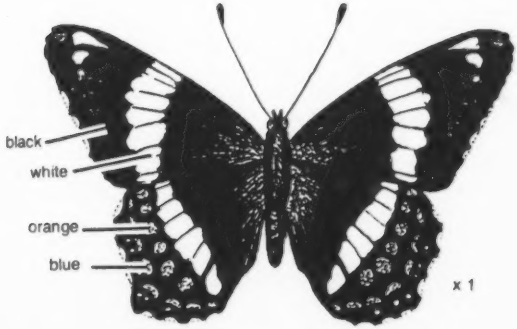
MOURNING CLOAK,
Nymphalis antiopa (Linnaeus)

Wingspan: 7.0 - 8.0 cm (2.75 - 3.25 in). Upperside is chocolate brown with yellow margins, and a band of blue spots inside the yellow border. The underside is brown with black streaks and a lighter, grayish border.

Larva is velvety black with white and red dots, and spiny. Feeds on a variety of plants including willow, poplar and rose. Overwinters as an adult. Found in open country and woodlands.

One of the first butterflies to be seen in the Spring. In England this butterfly is known as the "Camberwell Beauty".

A resting Mourning Cloak with its wings closed is very difficult to detect because the dull colors of the underside blend well against most backgrounds, a fine example of camouflage.

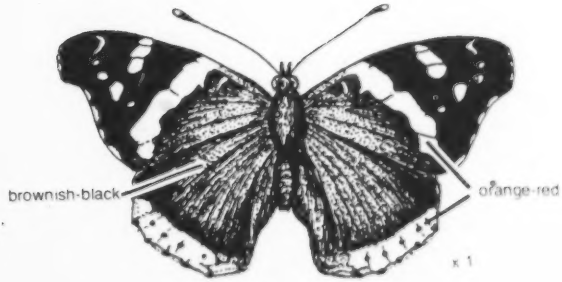


WHITE ADMIRAL,
Limenitis arthemis (Drury)

Wingspan: 7.0 - 8.0 cm (2.8 - 3.2 in). Upperside is black with prominent white bands. Underside is brown with white, orange, and blue bands. There are also five orange spots on the inner part of the underwings.

Larva is grotesque in form, greenish or olive-brown and bumpy. Feeds on birch, aspen, and willow. Overwinters as a young larva. Found in open forests and at the edge of forests.

Another name for this butterfly is Banded Purple. The larva hibernates in a silken tube made from the rolled up part of a leaf that is fastened to the twig of the food plant.

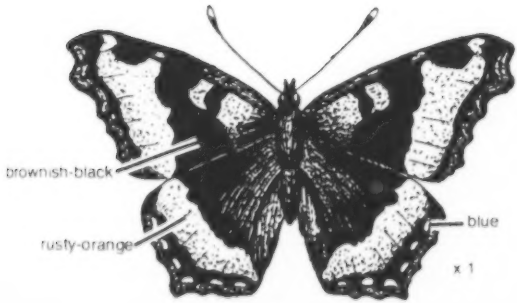


RED ADMIRAL,
Vanessa atalanta (Linnaeus)

Wingspan: 4.5 - 5.5 cm (1.75 - 2.25 in). Upperside is brownish-black with a bright orange-red band across the fore wing and the outer margin of the hind wing. Also, there are white markings on the fore wing.

Larva is variable in color and spiny. Feeds on nettles. Lives in a folded leaf which is lined with silk. Overwinters as an adult or pupa. Found in open areas.

Adult Red Admirals that hibernate and then emerge in the Spring are usually worn and frayed, and dull-colored. Adults that emerge in late summer are much more brightly colored.

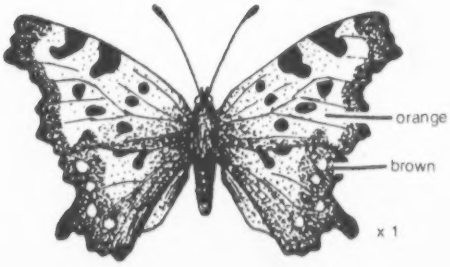


MILBERT'S TORTOISE SHELL,
Nymphalis milberti (Godart)

Wingspan: 5.5 - 6.3 cm (2.25 - 2.5 in). Upperside is brownish-black with a broad rusty-orange band across each wing, and a black edge with blue markings. Underside is chocolate brown with a broad fawn band on outer part of the wings.

Larva is black and yellow, with many whitish dots and bristly spines. Feeds in little colonies on the leaves of nettles. Overwinters as an adult or pupa. Found in open fields and along roadsides.

This pretty butterfly, like the Mourning Cloak, Red Admiral, Painted Lady, and Green Comma, hibernates, tucking itself away for the winter in a rocky crevice or tree cavity.

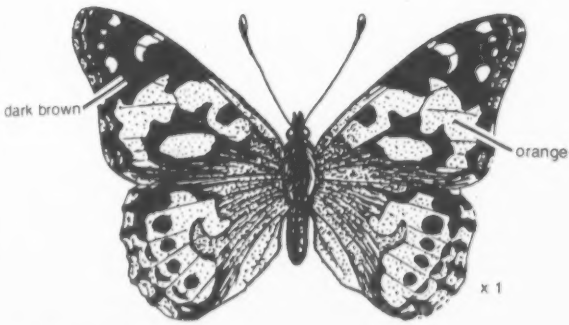


GREEN COMMA,
Polygonia faunus (Edwards)

Wingspan: 4.5 - 5.0 cm (1.7 - 1.9 in). Upperside is dull orange, blotched with brown and black and greenish tinted. Outer edge of wings are brown, with yellow spots. Wing edges are ragged. Underside of wings is mottled brown. When folded, this gives the butterfly a dead leaf appearance.

Larva is reddish with a white mark near the middle and a dull orange band on the side; spiny. Feeds on birch, willow, alder, currants, etc. Overwinters as an adult.

The Green Comma belongs to a group known as Angle Wings, so named because of the sharp, angular margins of their wings. Their flight is fast and erratic. They are found primarily in open areas of forests.



PAINTED LADY,
Vanessa cardui (Linnaeus)

Wingspan: 5.0 - 6.0 cm (2.0 - 2.5 in). Upperside is orange with brown markings. Fore wings have a solid brown tip with a few creamy markings. Five black spots near the edge of the hind wing. Four large spots on the hind wing beneath. The similar American Painted Lady, *V. virginiensis* (Drury), has only two spots.

Larva is yellowish-green and black, and spiny. Feeds on thistles, groundsel, pearly everlasting, etc. Overwinters as an adult or pupa.

The Painted Lady is the most widely distributed butterfly in the world, earning it the nickname 'Cosmopolite'.

The Painted Lady and Red Admiral belong to a group known as the 'thistle butterflies'. Both frequent flowers, especially thistles.

BROWN ELFIN,
Callophrys augustinus (Westwood)

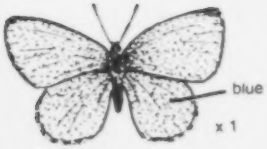
Wingspan: 2.5 - 3.0 cm (1.0 - 1.25 in). Upperside is dark chocolate brown. Hind wing has a slightly scalloped margin. Underside is reddish brown.

Larva is a vivid, intense green with yellowish-green markings. Feeds on blueberry and sheep laurel. Overwinters as a pupa. Adults appear in April. Prefers open areas.

BOG COPPER,
Lycaena epixanthe phaedrus (Hall)

Wingspan: 2.0 - 2.5 cm (0.8 - 1.0 in). Upperside is brownish, dully glossed with coppery purple. There is a narrow white band on the outer wing edge, seen only at close range. Underside is whitish-yellow.

Larva is unknown. Overwinters as an egg. Feeds on cranberry. Found in acid bogs. Adults appear by mid-July.

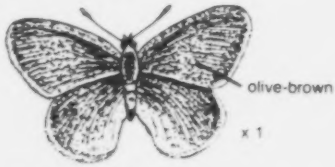


SPRING AZURE,

Celastrina argiolus pseudargiolus (Boisdural & LeConte)

Wingspan: 2.0 - 3.0 cm (0.8 - 1.25 in). Upperside is violet-tinged blue. Underside is whitish with brown markings.

Larva is pinkish-white. Feeds on various plants: meadowsweet, blueberry, dogwood, wild raisin, etc. Overwinters as a pupa. One of the first butterflies to emerge in the spring.

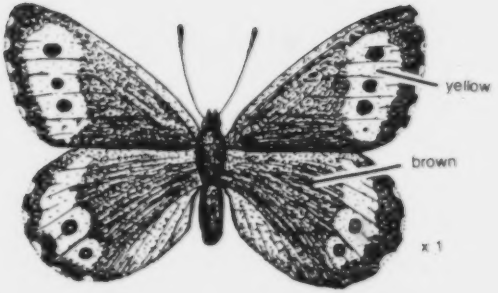


McISAAC'S RINGLET,

Coenonympha inornata mcisaaci dos Passos

Wingspan: 3.0 cm (1.25 in). Upperside is pastel shades of olive-brown, or orange, and densely hairy.

Larva is long and slender and hairy. Feeds on grasses. Overwinters as a larva. Prefers open grassy areas. Adults have a weak, low flight.

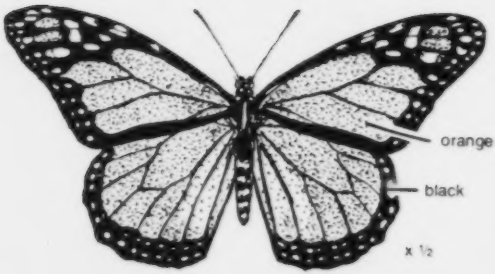


JUTTA ARCTIC,
Oeneis jutta terraenovae dos Pussos

Wingspan: 4.5 - 6.0 cm (1.9 - 2.5 in.). Upperside is a dark chocolate-brown with a yellow band that has dark spots in the fore wing.

Larva is stout-bodied, striped and thickly covered with short hairs. Feeds on grasses. Overwinters as a larva. Found in acid bogs and adjacent forests. Adults have a strong, erratic flight and are wary and hard to approach.

The Jutta Arctic and McIsaac's Ringlet belong to a group of butterflies known as Satyrs and Wood Nymphs. Two other species of this group occur in Newfoundland: Polixenes Arctic, *O. polixenes* (Fabricius) and Chrysus Arctic, *O. chryxus* (Doubleday). All are brownish and hairy, and the front legs are greatly reduced.



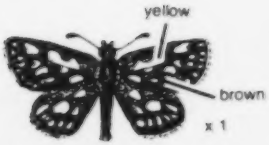
MONARCH,
Danaus plexippus (Linnaeus)

Wingspan: 9.0 - 10.0 cm (3.5 - 3.9 in). Upperside is orange with black veins and borders. The outer borders have white spots.

Larva is banded yellow and black. Feeds on Milkweed, a plant not found in Newfoundland.

The Monarch is well-known for its migratory habits. In the fall, flocks move south from northern areas to spend the winter in the southern United States. In route, large numbers spend the night in favourite roost trees. Those appearing north the next spring are usually the offspring of individuals that migrated south the year before.

This species is not known to breed in Newfoundland but may occur here in late summer.



ARCTIC SKIPPER,
Carterocephalus palaemon (Pallas)

Wingspan: 2.2 - 2.7 cm (0.9 - 1.1 in). Upperside is dark brown with large, rounded yellowish spots.

Larva is uniform cream color with a faint longitudinal stripe; smooth. Feeds on grasses. Found along woodland trails and in meadows. Apparently, the larva lives in a nest and feeds at night. Adults fly close to the ground.

Three other species of Skippers have been recorded in Newfoundland: Labrador Skipper, *Hesperia comma borealis* Lindsey; Grizzled Skipper, *Pyrgus centaureae* (Rambur); and Peck's Skipper, *Polites coras* (Cramer). They are rare and less likely to be seen than the Arctic Skipper. All are brown with light spots, and have wingspans of about 2.5 cm (1 in).

The swift and darting flight of the Skippers gives them their name.

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